60Sox: An experiment in building digital literacies for emerging professionals in the digital content industries.

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The concept of digital literacies has gained currency though its main purchase has been in relation to the media audience (Hartley, 2007) and also as outputs from formal education institutions (Bruns, 2008). The warrant of this paper however is about a different cohort of the digirati, namely emerging professionals in the rapidly morphing digital content industries. These Gen-C denizens - the C is for content (Trendwatching, 2008) - live in the liminal space between graduation and employment. Many of them were "born digital", but they are required to negotiate the ruins of the crumbling bastions of traditional media empires to get a job. Many of them are not motivated by money but they are exhorted to be cyber entrepreneurs. Quite a few of them aspire to the uber chique careers worshipped in Wired magazine, but find themselves cutting code for gambling and porn sites. Apart from these quixotic intrigues, they are also of interest because they are in fact essential to Australia's economic future.

The digital content industries (computer games, digital video and film, post-production, web sites, animation) are a rapidly emerging industry sector that is economically significant to Australia's future (Cunningham et al 2004). They are worth $19 billion (3.3% of GDP), employ 289,000 people (QUT CIRAC; Cutler and Co 2004), and yet experience an annual trade deficit of $2 billion (CIE 2005). In addition to scale, they are significant because they are drivers of the knowledge economy and enablers for other industry sectors. They translate 'directly into the competitive advantage and innovation capability of other sectors of the economy' (QUT CIRAC and Cutler&Co 2004). The digital content industries are knowledge intensive and require highly skilled human capital (Florida, 2003; Cunningham *et al* 2004; QUT CIRAC; Cutler and Co, 2004). However, very little research has been undertaken on the human resource and human resource development issues in the sector.

In fact, Australian digital content industries face a skills shortage (CIE 2005) exacerbated by graduates who are not job ready and lacking in creative business and team skills (AIMIA 2005). The workforce for recent graduates in digital content areas is largely a transient one and atypical of many forms of employment. On the whole, most are portfolio workers demonstrating high degrees of flexibility and mobility operating on short-term contracts with project based work (MKW 2001). Many are self-employed (Spillsbury, 2002). They are self-directed learners whose learning is measured on the basis of the products they produce. On completion of training they must often organise their own process for learning and ongoing up-skilling (MKW 2001). Unlike the long established apprenticeship system for trades or the formal entry into professional recognition bodies for careers such as law, medicine and teaching, digital content creators do not have traditional, well-established structures or organisations to help continue their journey of life long learning and continuous up-skilling or to facilitate employment opportunities in a systematic manner. As such this group embodies a key set of capacities in the national digital literacy – not yet professional but more than amateur.

The 60Sox project was funded by the Australian Research Council to investigate the education-to-work transition experiences of graduate and emerging creative professional; and to to investigate how they access existing industry distribution resources and further career development opportunities, digital literacies; including enterprising self-employment. In pursuit of this agenda, we developed a "virtual creative ecology" for graduate and emerging creative professionals to showcase their work, to collaborate on new work, to develop relationships with industry professionals and to formalise their entry into professional structures of sustainable employment (www.60sox.org). The project tracks successful content creators, mapping the process of their success and developing a national online network inclusive of emergent digital content creators,

their training establishments (TAFEs & Universities) and respective industry professionals and distributors. The resulting on-line national portal captures the creative outputs of creative graduates in all states, encompassing music, interactive media, short-film, digital story telling and graphic design, broker national events and education and open opportunities with content aggregators.

Having 'soft' launched the online network at 60Sox.org.au in September 2007, this project currently supports a vibrant community of original digital content creators across Australia. Up until now involvement from individuals in all states and territories has been established largely through word-of-mouth between emergent creative practitioners. In the coming months, a full scale national launch will take place alerting private enterprise, government departments and educational institutions to the network's existence. The primary message of this launch will be "matching creative skills with industry demand".

In order to develop further the digital literacies of network members, a series of initiatives have been set in place to encourage skills and knowledge transferral between peers and industry experts. The encouragement of 'constructive feedback' between members is developing a central pool of creative know-how which members can access to improve their creative and digitally-facilitated outputs. Across each of the eight creative categories catered to through the network, six items are selected each month and sent to a panel of high-profile and commercially successful industry experts, the '2bobmob' (Brow, Hearn and Bridgestock, 2007). Access to this high end feedback from professional leaders delivers an extraordinary capacity for professional development at this critical stage of an emergent creative practitioner's career.

In addition to the wholly 'binary' nature of the 60Sox website, the project is extended further into 'ink' through the publication of a nationally-circulated half yearly magazine, '6S' which provides further exposure for promising new creatives and detailed information about contemporary employment opportunities within the region's digital content industries. Furthermore, exhibitions and events will encourage face-to-face interaction between 60Sox members and would-be employers.

A number of factors make this project conceptually significant:

1) The centrality of human capital arguments (particularly around education and training) in the operation of the creative economy (Cunningham *et al*, 2004; ICE 2005; Potts and Morrison, 2005; Florida, 2003;) and more broadly in innovation per se (Blandy, 2001); 2) The importance of "creative ecologies" as an emerging business concept particularly in the digital content industries or more broadly the creative economy; 3) The emergence of online and/or peer to peer architecture as a changing distribution mode within the music industry and increasingly film; 4) The emerging importance of pro-am creativity and open source but also its problematic relationship to tier 1 (mainstream) industry; and 5) The recognition of skill shortages and training requirements in Australia's digital content industries and the growing importance of virtual learning milieus for professional education (AIMIA, 2005; Mitchell et al 2003) researched from within a "communities of practice" approach.

1. *Human Capital*. Florida (2003) argues that human capital is central to success in the creative industries. "Studies of national growth find a clear connection between the economic success of nations and their human capital, as measured by the level of education" (Florida, 2003 p. 222). He argues the same is true for regions and cities. Endogenous growth theory suggests it is the capacity to produce and absorb new ideas that is an outcome of education and training, which is one of the underlying mechanisms of growth (Potts and Morrison, 2005). Blandy (2002) argues that the new economy is made up of a collection of new competitive advantages and not a brand new set of enterprises. It values people with how-to or tacit knowledge, constructing the knowledge from the

ground up within groups that innovate within enterprises. This project therefore addresses how to nurture creative human capital within the expanding creative workforce (Robinson, 2005). In order to attain a sustainable creative workforce, systemic transformation is needed. To some extent, this is underway as formal education is oriented to the challenges posed by an environment characterised by innovation, the increasing impact of knowledge and creativity on the economy, and of globalisation and new technologies across all areas of work and experience. This is especially the case in digital content industries where employment patterns have deviated from those of older industries such as manufacturing for example (QUT, Cutler and Co, 2004).

2. *Creative Ecologies*. An ecology can be defined as a milieu of agents connected in various ways making exchanges in diverse ways (Hearn, 2006 forthcoming; Tacchi, Hearn and Slater, 2003). Creativity often comes from the juxtaposition of different ideas or methods and the strength of the notion of an ecology is precisely that it brings together a variety of different ideas or skills in a milieu where these can be juxtaposed and built on. Introducing the language of ecology creates a conceptual mechanism whereby these creative ecologies can be related to other ecologies, for example media audiences, products suites, market segments and so on. That is, the language of ecologies offers a particular lens through which to view these phenomena and relate them conceptually and practically to other contemporary cultural phenomena (Hearn, 2006, forthcoming). The idea of a creative ecology is therefore a meaningful conceptual innovation, which is consistent with both long standing descriptions of the creative industries (Scott's (2000) 1st and 2nd tiers creatives; Jeffcutt's (2004) creative eco-system); as well as current theory building that seeks to explain the performance of the creative sector in Australia. It frames the milieu as incorporating both major and SME players – including enterprising start-ups. Cunningham *et al* (2004) have described Australia's creative innovation systems, emphasising the importance of multi agent milieus, and the necessity for rejuvenating the links between them. Creative ecology thinking has also been applied to venture capital backed internet companies (Zacharakis, Shepherd and Coombs, 2003), mobile telephone businesses (Feldman, 2002), Danish pop music innovation (Lorenzen and Fredrickson, 2003) and the film industry (De Vany, 2004).

Hearn, (2006) suggests that virtual creative ecologies are consistent with 5 emerging trends in business, namely: 1) the shift from thinking about consumers to thinking about co-creators of value; 2) the shift from thinking about value chains to thinking about value networks; 3) the shift from thinking about product value to thinking about network value; 4) the shift from thinking about simple co-operation or competition to thinking about complex co-opetition (*cooperative competition*); and 5) the shift from thinking about individual firm or institution strategy to thinking about strategy in relation to the business ecosystem as a whole. The project's multi-disciplinary links with business literatures frames the industry milieu being studied as inherently entrepreneurial and recognises enterprising self-employment one of the career trajectories to be considered.

3. *On-line and Peer-to-Peer Distribution*. These business trends are consistent with the emergence of new distribution models in the creative industries. Peer-to-peer networks utilise direct connections between computer users (peers), instead of depending on server-client affiliation. Peer-to-peer applications allow users to exchange content on a considerable scale. Such user cultures contest the strategy of former mass-delivery systems such as free-to-air and pay television, traditional radio broadcasting and even cinema distribution.

4. *Pro-am Creativity*. Aspiring practitioners constitute a very significant sector of the creative industries characteristically operating as non-commercial content producers. Leadbeater (2004) has recently introduced the term 'pro-am' to describe this practice. There is an increasingly vibrant sector of practitioners in the creative industries that are making important and innovative contributions in broadband environments. Cunningham (2005b) shows how many of the most creative spaces on the Internet generate innovative content and enterprises that relate to pro-am

production, evaluation and exchange of content (distinctions between consumption and production, labour and citizenship have blurred, allowing new commercial, public and training opportunities in such areas as user-led and pro-am innovation, open source, and broad-based consumer creativity, as a basis for lower-cost content generation and dissemination. There is great potential to move these non-commercial practitioners into more commercial industry environments if appropriate pathways can be developed. Cunningham (2005b, p. 7) suggests "The culture that is emerging is as much about creativity invested in the distribution and aggregation possibilities and potential afforded by new communication platforms as about the text and the content."

5. *Communities of Practice.* The development and sustainability of the virtual creative ecology for Australia's digital content industries is informed by best practice models of communities of practice. Wenger et al (2002) defined a community of practice as a group of individuals that is formed around common interests and expertise, providing an ideal vehicle for knowledge flow, exchange and management. Their model consists of three structural and interconnected elements that require a distinct kind of parallel developmental action and work. These elements include a *domain of knowledge* as common ground, a *community* to provide a sense of belonging and mutual commitment, and *practice* to provide a set of common approaches to problems.

According to McDermott (2000 p.1) the role of communities of practices is to effectively share tactical knowledge and think together. He argued that communities are dynamically different from teams and other organisational forms in that "they are organic, driven by the value they provide to members, organised around changing topics, and bound by people's sense of connection". McDermott argued that the success of a community depends on its ability to overcome the *management challenge* of communicating that it truly values sharing knowledge; the *community challenge* of creating real value for community members and ensuring the community shares cutting edge thinking and the *technical challenge* of designing human and information systems that make information available and encourages members to think together as well as the *personal challenge* of being open to the ideas of others and maintaining a thirst for the community's practice. The establishment of the ecology of this project was guided by best educational practice (Australian Government Information Management Office, 2005). For example, Mitchell (2004) evaluated 24 industry training networks established as part of the Australian's Government *Reframing the Future* initiative. Particularly useful are Mitchell's recommendations in terms of building social capital, representation of and participation by industry (regardless of size, location and resources), effective facilitation and information sharing strategies, and open and loosely structured networks that can respond to changes in members' goals and the external environment.

The ecology also incorporates the features of learning cultures and principles of lifelong learning in order to contribute to the ongoing employability of creative professionals in the changing world of work. Johnston and Hawke (2002) described a learning culture as one with a set of attitudes, values and practices that support the continual process of learning for the organisation (in this project's case, the ecology for digital content industries) and its members. Features of learning cultures that ideally operate within networks and partnerships include open communication, innovative training and/or learning assessment systems, the role of online trainers/facilitators, the role of informal learning and fostering generic skills. The ecology shows its commitment to a learning culture and lifelong learning through formal and informal initiatives that encourage creative professionals "to acquire new skills, to adopt new ways of practice, and to share knowledge on work and work practice" (Johnston and Hawke, 2002 p.9). These efforts not only assist creative professionals to develop those generic skills that industry believed they were deficient in but also provide them with an opportunity to develop a broader and more holistic set of generic skills that reflect the conditions of the information-based new economy and the culture of learning, enterprise, innovation and creativity (Kearns, 2001 p.2).

The findings of this "experiment", will provide valuable insight and an anticipatory framework to help sustain the Australian government's declaration that Australia is "strongly committed to knowledge creation, innovation and economic growth" and that "we need to build a culture within Australia that applauds innovation and ensure that research, education, business and government work together to harness the potential innovation offers". This is part of an overall strategy to position Australia as a 'knowledge nation' and 'exporter of knowledge'. The project provides analysis of new systems and products as well as innovative examples of multi-media, content generation and imaging. The project aspires to rejuvenate Australia's training milieu for creatives and provide a research led prototype for innovations across this sector. In summary, the project provides: direct links and closer involvement with industry; on-going research and information for planning and curriculum mapping; access to on-going research for planning and policy development; creating local skills development events.

References

AIMIA (2005) *Digital Content Roadmapping Industry Study*, Sydney, AIMA.

Australian Government Information Management Office. (2005) *Guidelines for Establishing and Facilitating Communities of Practice.* http://www.agimo.gov.au/resources/cop/guidelines#background.

Blandy, R. (2001) Industry clusters program: A review SAVB 2010. Centre for Applied Economics South Australia.

Brow, J. Hearn, G. and Bridgstock, R. (2007) 60Sox and the 2BobMob: Mentoring in an online learning community for creative insdutries graduates.Partnerships in World Graduates Conference 2007, Melbourne, 28 - 30 November 2007.

Bruns, A. (2008) Blogs, Wikipedia, Second Life and beyond: From production to produsage. Peter Lang New York.

CIE (Centre for International Economics) (2005) *Australian Digital Content Industry Futures*, Canberra, DCITA.

Cunningham, S (2005b)Australia – A creative Economy? Paper presented to the 36th Annual Symposium of the Australian Academy of the Humanities, Canberra Australia.

Cunningham, S., Cutler, T., Hearn, G., Ryan, M. and Keane, M. (2004) *An innovation agenda for the creative industries: where is the R&D?* Media International Australia Incorporating Culture and Policy: quarterly journal of media research and resources, 112. pp. 174-185.

Cutler and Co (2002) *Producing Digital Content*, Canberra, DCITA, http://www.dcita.gov.au/__data/assets/pdf_file/18956/Cluster_Study_Stage_2_Report.pdf.

De Vany, A. (2004) *Hollywood economics: How extreme uncertainty shapes the film industry*, Routledge, New York.

Feldmann, V. (2002) "Competitive strategy for media companies in the mobile internet" *Schmalenbach Business Review* 54, 351-371.

Florida, R. (2003) *The Rise of the Creative Class: and how it's transforming work, leisure, community and everyday life*, Annandale, N.S.W. : Hartley, J. (2007) There are other ways of being in the truth: The uses of multi-media literacy. International Journla of Cultural Studies 10(1), 135-144.

Hearn, G (2006) *Value creating ecologies: Understanding next generation business systems*, Foresight, 8, (1).

Jeffcut, P. (2004) "Knowledge relationships and transactions in a cultural economy: Analysing the creative industries ecosystem", *Media International Australia* 112, 67-82.

Johnston R. and Hawke G. (2002) Case studies of organisations with established learning cultures, NCVER, Adelaide.

Kearns P. (2001) *Generic Skills for the New Economy: Review of Research*, NCVER, Adelaide.

Leadbeater, C. (2004) ‘Open Innovation and the Creative Industries’, guest lecture presented to the Creative Industries Faculty, Queensland University of Technology, Brisbane, 2 March.
Lorenzen, M. and Frederiksen, L. (2003) “Experimental music: Product innovation, project networks, and dynamic capabilities in the pop music industry”, *Industry & Innovation*, Submitted paper.
McDermott R. (2000) *Knowing in Community: 10 Critical Success Factors in Building Communities of Practice*. http://www.co-i-l.com/coil/knowledge-garden/cop/knowing.shtml on 8 November 2005.
Mitchell J. (2004) *Building Industry Training Networks*, Melbourne, ANTA.
MKW (MKW Wirtschaftsforschung Gmgh)(2001) *Exploitation and Development of the Job Potential in the Cultural Sector in the Age of Digitisation*, European Commission, http://europa.eu.int/comm/employment_social/empl_esf/docs/cult_sector/module1.pdf
Potts, J. and Morrison, K (2005) *The new economics of the creative industries* Brisbane Report prepared for the Creative Indsutries Research and Applications Centre QUT. Volterra Pacific:
QUT CIRAC (Creative Industries Research and Applications Centre) and Cutler & Co (2004) *Research and Innovation Systems in the Production of Digital Content*, Report for the National Office for the Information Economy, September, http://www.cultureandrecreation.gov.au/cics/Research_and_innovation_systems_in_production_of_digital_content.pdf
Robinson, K. (2005) *How creativity, education and the arts shape a modern economy*, Education Commission of the States, http://www.ecs.org/clearinghouse/60/51/6051.pdf.
Spillsbury, M. (2002) *An Assessment of Skill Needs in the Media and Creative Arts*, Nottingham, Department of Education and Skills.
Tacchi, J., Slater, D., & Hearn, G. (2003). *Ethnographic Action Research: A user’s handbook developed to innovate and research ICT applications for poverty eradication.* New Delhi: UNESCO.
Trendwatching (2008) http://www.trendwatching.com/trends/GENERATION_C.htm
Wenger, E., McDermott, R. and Snyder, W., (2002) *Cultivating Communities of Practice: A Guide to Managing Knowledge*, Boston, Harvard Business School Press.
Zacharakis, A., Shepherd, D., and Coombs, J. (2003) “The development of venture-capital-backed internet companies: An ecosystem perspective”, *Journal of Business Venturing* 18, 217-231.